

REMARKS

Claims 1-6 are pending in this application. By this Amendment, the specification is amended. No new matter is added.

I. Specification

The Abstract is objected to for containing more than 150 words. As the Abstract is amended in response to the objection, withdrawal of the rejection is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §102

Claims 1-8 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,234,932 to Kuroda et al. The rejection is respectfully traversed.

Kuroda fails to disclose each and every feature recited in the pending claims. For example, Kuroda does not disclose a stop position estimating apparatus of an internal combustion engine comprising a motor generator having a function of at least one of a motor and a generator interlocked with a crankshaft of the internal combustion engine, a first detecting unit for detecting a rotation position of the motor generator, a second detecting unit for detecting a crank angle of the crankshaft, and an estimating unit for estimating a stop position of the internal combustion engine based on the rotation position of the motor generator and the crank angle.

Kuroda discloses a control apparatus for a hybrid vehicle, which enables an operation mode change between the acceleration mode and cruising mode (col. 1, lines 48-52). Thus, Kuroda does not disclose or in any way relate to a stop position estimating apparatus of an internal combustion engine, as recited in the pending claims.

The Office Action alleges that Kuroda discloses each and every feature recited in the rejected claims. Although Kuroda discloses a motor generator and a crank angle sensor, Kuroda fails to disclose a first detecting unit for detecting a rotation position of the motor

generator, or an estimating unit for estimating a stop position of the internal combustion engine based on the rotation position of the motor generator and the crank angle.

The Office Action alleges that the current detector 21 corresponds to the first detecting unit for detecting a rotation position of the motor generator, as recited in the claims. However, Kuroda clearly discloses that the current detector 21 detects an input or output current of a capacitor 6 passing through the current detector 21 to supply a detected current value to the motor electronic control unit 11 as data (col. 4, lines 59-62). As stated above, Kuroda relates to a control apparatus which enables an operation mode change between the acceleration mode and cruising mode, i.e., a motor assist operation. The motor generator 2 of Kuroda is coupled with a power drive unit 5. When the motor 2 operates as a normal motor in order to assist output power of the internal combustion engine 1, the power drive unit 5 supplies electric power to the motor 2. During a regenerative operation period in which the motor 2 is operated as a generator without supplying electric power, the power drive unit supplies regenerative power to a capacitor 6 which is connected to the current detector 21 described above. Accordingly, the current detector 21 in no way relates, or corresponds to a first detecting unit for detecting a rotation position of the motor generator.

The Office Action further alleges that Kuroda discloses an estimating unit for estimating a stop position of the internal combustion engine at col. 6, line 30 - col. 7, line 20. In the referenced section of Kuroda, a CPU is described. The CPU 31 is in the motor electronic control unit 11 which controls rotation of the motor 2 through the power drive unit 5. Specifically, the CPU 31 determines an operation mode at the executed time to set the assist amount or regeneration amount corresponding to the determined operation mode (col. 6, lines 33-38). In other words, the CPU is determining whether or not the electric motor 31 is assisting the engine or charging the batteries.

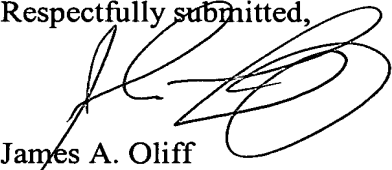
Thus, Kuroda fails to disclose an estimating unit for estimating a stop position of the internal combustion engine. Furthermore, the CPU 31 of Kuroda does not detect or receive signals regarding the rotation position of the motor generator 3 and the crank angle of the crank shaft of the internal combustion engine. Thus, Kuroda fails to disclose each and every feature recited in the rejected claims. Accordingly, withdrawal of the rejection of claims 1-8 under 35 U.S.C. §102(b) is respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-6 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Amended Abstract

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